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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,789	08/21/2003	Katsutoshi Yamane	FSF-031441	6929
37398	7590	07/26/2005	EXAMINER	
TAIYO CORPORATION 401 HOLLAND LANE #407 ALEXANDRIA, VA 22314			CHEA, THORL	
			ART UNIT	PAPER NUMBER
			1752	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,789

Applicant(s)

YAMANE ET AL.

Examiner

Thorl Chea

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-26,28 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-26,28 and 29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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### DETAILED ACTION

1. This second office action is responsive to the amendment on May 10, 2005; claims 1-4, 6-26, 28-29 are pending in this instant application; claims 5, 27 has been canceled.

2. The rejection under 35 U.S.C. 112, second paragraph in the previous rejection paragraphs 1-3 are withdrawn in view of the applicants' amendment; the rejection of claims 1-6, 18-29 under 35 U.S.C. 102(e) as being anticipated by Shoji Nanami (US Patent No. 6,814,506 is withdrawn in view of the translation of the foreign priority document provided on May 10, 2005; the rejection of claim 19 is rejected under 35 U.S.C. 102(e) as being anticipated by Hirabyashi et al (US Patent No. 6,468,720) is withdrawn in view of the amendment on May 10, 2005.

3. Applicant's arguments with respect to claims 1-4, 6-26, 28-29 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4, 6-16, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mitsuhashi (US Patent No. 6,649,338) and Ogawa et al (US Patent No. 6,288,370). Mitsuhashi discloses a photothermographic material and process for forming image thereof substantially as claimed. See the abstract wherein the photothermographic material exhibits a gradation of 2.0 to 5.0 within the density 0.2 to 5.0 and the material contains light-sensitive silver halide, a light-insensitive organic silver salt and a binder; column 24,

Art Unit: 1752

reducing agent of formula (A); column 4, the preferred silver salt of fatty acids; and column 40, lines 31-67 to column 41, process for forming an image using an apparatus equipped with exposure and heating device. Ogawa et al discloses thermal developing apparatus having imagewise exposing unit and heat developing unit substantially similar to the developing apparatus using in the process claimed in the present invention. See Fig. 5 of Sheet 2 of 15, Fig. 11, sheet 6 of 15, and Fig. 20, sheet 15 of 15 and the description thereof in the specification disclosure. Mitsuhashi and Ogawa et al may not specifically disclose the thermal developing device configured such that a distance between an exposing section and a developing section is not more than 50 cm and the photothermographic material begins to be developed at an exposed portion thereof while another portion thereof is still being exposed presented in the claimed invention. However, the distances and time of performing imagewise exposure step and heat developing step would have been found prima facie obvious to the worker of ordinary skill in the art at the time the invention was made since it would have expected in the art the image can be produced by heating photothermographic material right after the imagewise exposure, i.e. after the formation of latent image. The distance and time between the imagewise exposing and heat developing are not critical to the worker of ordinary skill in the art. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to reconfigure the units shown in the heat development apparatus taught in Ogawa et al in such way that the imagewise exposing unit and the heating unit are in a close distance to develop the material taught in Mitsuhashi with reasonable expectation of still producing a good quality image.

Art Unit: 1752

6. Claims 7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mitsuhashi (US Patent No. 6,649,338) and Ogawa et al (US Patent No. 6,288,370) as applied to claims 1-4, 6-16, 29 above, and further in view of Wada (US Patent No. 6,524,781).

Mitsuhashi discloses a process such as described in the paragraph 2 above, but fails to disclose the barrier layer, which has been known and taught Wada, which discloses a barrier layer having trapping agent such as -NH- bond in the molecule. See abstract and odor trapping compound in column 2, lines 58-68, column 3 and column 4. See also the binders in column 12, lines 44-66. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to associate the barrier layer taught Wada with the material taught in Mitsuhashi to trap the odor during the heating process, and thereby provide a process as claimed.

7. Claims 7-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mitsuhashi (US Patent No. 6,649,338) and Ogawa et al (US Patent No. 6,288,370) as applied to claims 1-4, 6-16, 29 above, and further in view Hirabayashi et al (US Patent No. 6,468,720). Hirabayashi et al discloses to develop a heat developable photothermographic material with a transport speed from 22 to 40 mm/second at the not less than 117 °C . Fig. 1 in Hirabyashi shows the exposed material transport to the heat development section right after exposure and discharge after heating process. Mitsuhashi and Ogawa et al may not disclose the processing speed of not less 23 mm/sec, but this processing speed is taught in Hirabayashi et al. It would have been obvious to develop the photothermographic material with a speed disclosed in Hirabayashi et al with an expectation of achieving an image with high quality.

Art Unit: 1752

8. Claims 1, 3-4, 6-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bauer et al (US Patent No. 6,240,102) and Ogawa et al (US Patent No. 6,288,370)

Bauer et al discloses a process of developing a photothermographic material having steps and photothermographic composition substantially as claimed. See the material exemplified in column 34 which contains an amount of silver salt of an fatty acid of  $\text{g/m}^2$  ( $13.4 \text{ mmole/m}^2$ ); the silver halide having different halide composition and size in column 15, lines 20-37; the hindered phenol reducing agent in column 20, lines 10-30; the barrier layer in columns 39-44, claims 1-38; the polymer binder use in the barrier layer in column 9, lines 60-68, columns 10-12. The imaging of the photothermographic material can be achieved by exposing by suitable source including laser diodes that emit radiation in a desired region and the exposed material is developed at temperature from  $50^\circ\text{C}$  to  $200^\circ\text{C}$ . See column 32, lines 25-68 to column 32, lines 1-12. Ogawa et al discloses thermal developing apparatus having imagewise exposing unit and heat developing unit substantially similar to the developing apparatus using in the process claimed in the present invention. See Fig. 5 of Sheet 2 of 15, Fig. 11, sheet 6 of 15, and Fig. 20, sheet 15 of 15 and the description thereof in the specification disclosure. Bauer et al and Ogawa et al may not specifically disclose the thermal developing device configured such that a distance between an exposing section and a developing section is not more than 50 cm and the photothermographic material begins to be developed at an exposed portion thereof while another portion thereof is still being exposed presented in the claimed invention. However, the distances and time of performing imagewise exposure step and heat developing step would have been found prima facie obvious to the worker of ordinary skill in the art at the time the invention was

Art Unit: 1752

made since it would have expected in the art the image can be produced by heating photothermographic material right after the imagewise exposure, i.e. after the formation of latent image. The distance and time between the imagewise exposing and heat developing would not have been found critical to the worker of ordinary skill in the art. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to reconfigure the units shown in the heat development apparatus taught in Ogawa et al in such way that the imagewise exposing unit and the heating unit in a distance relatively close to each other to develop the material taught in Bauer et al with reasonable expectation of still producing a good quality image.

9. Claims 7-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Bauer et al (US Patent No. 6,240,102) and Ogawa et al (US Patent No. 6,288,370) as applied to claims 1, 3-4, 6-18 above, and further in view of Wada (US Patent No. 6,524,781). Bauer et al fail to disclose the barrier layer having trapping agent such as -NH-bond in the molecule, but the use of trapping agent has been known in Wada. See abstract and odor trapping compound in column 2, lines 58-68, column 3 and column 4. See also the binders in column 12, lines 44-66. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to associate the barrier layer taught Wada with the material taught in Bauer et al to trap the odor during the heating process, and thereby provide a process as claimed

10. Claims 19-26, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US Patent No. 6,171,767) in view of either Hirabayashi et al (US Patent No. 6,468,720) or Ogawa et al (US Patent No. 6,288,370). Kong discloses a material and process substantially as

Art Unit: 1752

claimed. See the composition of the material in columns 29-32, claims 1-17 wherein the material contains photosensitive silver halide, a non-photosensitive reducible silver source, a reducing agent, a binder and a benzotriazole compound; the hindered phenol including the bisphenol as reducing agent in column 15; the silver salt compound contains a mercapto group in column 14, lines 5; silver behenate in column 13, lines 49; the toner known as development accelerator in column 18, lines 33-67, and the process in column 19, lines 10-20 wherein the material is subjected to imagewise exposure and then heat development. Hirabayashi and Ogawa disclose a thermal developing apparatus. See Hirabayashi et al , Fig.1 and Fig.2 and Ogawa et Fig. 5 of Sheet 2 of 15 , Fig. 11, sheet 6 of 15, and Fig. 20, sheet 15 of 15 and the description thereof in the specification disclosure. Kong et al may not discloses the step of discharging the photothermographic material from a thermal developing device within 35 seconds after heating for the thermal development is ceased, but the use a thermal development device has been known and practice in the art such as disclosed in Hirabayashi et al and Ogawa et al wherein the developed photothermographic material is discharged right after heating. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to develop the material taught in Kong et al using a known heat development taught in either Hirabayashi et al or Ogawa et al to provide a process as claimed. The use of thermal solvent to increase speed of development presented in claim 28 has been conventionally practiced in the art.

### ***Conclusion***

Art Unit: 1752

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

Application/Control Number: 10/644,789

Page 9

Art Unit: 1752

system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tchea *thc*  
July 21, 2005

*Thorl Chea*  
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Primary Examiner  
Art Unit 1752